

MLCPAC STANDARD SPECIFICATION 086
GENERAL REQUIREMENTS FOR INSTRUCTION BOOKS

1 GENERAL

1.1 This specification covers the requirements for Instruction Books when such books are called for as part of a procurement specification.

2 REFERENCES

Coast Guard Drawings: None

Enclosed Figures: None

Applicable Documents:

COMDTINST M9000.6B, Change 1; Naval Engineering Manual, Chapter 086,
Technical Manuals and Publications (May 94)

3 EQUIREMENTS

3.1 Instruction books shall be of sufficient detail to allow for the satisfactory operation, maintenance, and repair in the field by technicians who are trained only in basic electrical/mechanical theory and troubleshooting. The instruction books shall be complete in detail and shall contain all the information as specified herein. Refer to COMDTINST M9000.6B, Chapter 086 for guidance.

3.2 The Contractor shall not include any copyrighted materials without obtaining and providing written releases from the equipment manufacturers allowing the Government to use, reproduce and distribute the material as needed to meet Government requirements. The Contractor shall place copies of these releases and written certification that all necessary releases are presented or that no releases are required in the front of each copy of the instruction book.

3.3 Preparation

3.3.1 Contents. The instruction books shall contain the following:

- a. Foreword
- b. Table of Contents including List of Illustrations, List of Tables and List of Drawings
- c. Introduction
- d. Safety Precautions
- e. Installation
- f. Operation
- g. Preventive Maintenance
- h. Corrective Maintenance
- i. Supplemental Data
- j. Parts List
- k. Drawings

3.3.2 Foreword. A foreword giving a general overview of the provided material shall be included.

3.3.3 Table of Contents. The table of contents shall list numbers and titles of sections and main paragraphs with their initial page numbers. The list of illustration, list of tables and list of drawings shall show the number, title, and page number of each illustration, table and drawing.

3.3.4 Introduction. An introduction and introductory material containing descriptive information and details shall include, but not limited to, the following:

- a. Purpose and function of the equipment.
- b. Capabilities.
- c. Physical characteristics - dimensions, weight, capacity and design conditions, etc.
- d. Power and utility requirements.
- e. Performance characteristics.
- f. Environmental requirements and limitations.
- g. Special tools and test equipment.

3.3.5 Safety Precautions. Safety precautions shall be specified where safety hazards, such as high voltage, are present during installation, operation or maintenance of the equipment. "Warning" notes shall indicate any conditions or practices, which if not strictly observed, could result in personal injury or possible loss of life.

3.3.6 Installation. Instructions shall be provided for the installing and interconnection of the equipment. Data shall be given on the most desirable mounting positions for each unit of equipment. Outline drawings shall be provided giving the overall dimensions of each major unit of the equipment and other dimensional data needed for installation such as spacing of mounting holes and required clearances. Instructions for the placing of the equipment in operation for the first time shall be given. Items such as the following:

- a. The procedures to be followed when energizing the equipment for the first time.
- b. Precautionary measures to be taken during adjustments, which if not carried out, may lead to faulty operation of the equipment or damage thereto.
- c. Instructions for making all adjustments and tests required after installation has been completed and before the equipment is turned over to operating personnel.

3.3.7 Operation. Instructions shall be provided which include a step-by-step procedure for starting and operating the equipment. Reference to controls shall be made by the control designations marked on the panels. Instructions shall be in a complete and logical sequence and shall include typical control adjustments and gauge readings for each operating function. Where provisions exist for local or remote operation, operating instructions shall be complete for each control position.

3.3.8 Preventive Maintenance. Detailed lubrication and cleaning data shall be provided for all field serviceable mechanical devices. Data shall be included for all adjustments, alignments, calibrations and test methods required to permit the field technician to maintain the equipment within its intended parameters. Instructions shall be provided in a tabular form that recommends the periodic intervals at which they should be performed; such as daily, monthly, etc.

3.3.9 Corrective Maintenance. A trouble-shooting chart shall be included showing a list of possible troubles and their remedies. The chart shall be of sufficient detail to isolate a problem to a particular component. Tables of normal clearance, diameters and thicknesses of new parts and limits permissible for wearing parts shall be included when applicable. Torque settings for important nuts and bolts shall also be listed when applicable.

3.3.10 Supplemental Data. Unnecessary information, advertising, and theoretical data not directly pertaining to the equipment being provided shall not be included. The insertion of entire standard catalogs is not permitted. Individual catalog sheets are permitted. If data for other than components of the equipment are contained on the sheets, the data germane to the equipment shall be clearly distinguished from all other.

3.3.11 Parts Lists. The parts list shall be complete. Parts shall be described so that repair parts may be identified by manufacturer's name, model and/or part number and ordered by field personnel. If parts for more than one type or model are described in the parts listing, the parts germane to the equipment shall be clearly distinguished from all others. The parts lists shall be keyed to exploded view drawing to provide identification of the various parts. In addition, a list of recommended on-board repair parts shall be provided containing the above information.

3.3.12 Illustrations and Drawings. Drawings, exploded views, sections, wiring diagrams and line art (photographs are not permitted) shall be included as required or applicable. These shall be 11 inches high with the width determined by the information provided. Drawings requiring folding shall be folded so they are 8 1/2 x 11 inches in size to match the other pages of the instruction book. Drawing shall be folded so that title can be read without unfolding. A blank apron

page on the left-hand margin shall be provided so the drawing can be read with instruction book closed. The 11-inch height requirement shall be met without folds. Drawings shall be black on white.

3.3.13 Printing. The text and tabular material shall be black ink printed on offset book 20-pound substance white paper.

3.3.14 Page Size. The page size shall be 8 1/2 x 11 inches with 3/8 inch diameter holes punched in the left-hand margin to permit insertion of the pages in a three-ring McBee binder.

3.3.15 Binding. The instruction book shall be provided in a McBee Swing Hinge binder. The binder shall allow for at least 20 percent growth in thickness without preventing the easy removal or addition of pages. Binder manufacturer. McBee Binders, Springfield, MO, (417) 866-0822.

3.3.16 Technical Publication Number. The Coast Guard Inspector will provide the Contractor with the Coast Guard technical publication number. The equipment name, manufacturer, the Coast Guard contract number and technical publication number shall be permanently printed on the binder front cover of each instruction book. The technical publication number shall appear in the upper right-hand corner and additionally be permanently printed on the spine of the instruction book.

3.4 Approval:

3.4.1 Preliminary Instruction Books. Upon completion, the Contractor shall submit two (2) copies of each instruction book to the Coast Guard Inspector for approval.

3.4.1.1 The Coast Guard Inspector and the required Coast Guard reviewers will review instruction books submitted and will return one copy of each instruction book, with review so noted within twenty-one calendar (21) days from date of receipt.

3.4.1.2 The Coast Guard in its function of instruction books approval does not assume responsibility as a design and drafting reviewer. The Contractor has the responsibility for providing an operable and satisfactory product.

3.4.2 Final Instruction Books. The printing of the final instruction books shall be withheld until the preliminary instruction books have been approved.

3.5 Delivery:

3.5.1 In accordance with the date established in the procurement specification, the Contractor shall furnish six (6) copies of the final instruction books or the number specified in the procurement specification.

3.5.1.1 Instruction books shall be packaged securely so that they reach their destination in an undamaged state.